31 December 1975
SUPERSEDING
MIL-I-3624C
15 June 1970

MILITARY SPECIFICATION

ICE MAKING PLANT, BLOCK, SELF CONTAINED, SKID MOUNTED, 1-TON

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers two types of ice making plants.

* 1.2 Classification. Ice making plants covered by this specification shall be of the following types as specified (see 6.2):

Type I	-	Gasoline engine driven
Type II	-	Electric motor driven

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

O-C-105	-	Calcium Chloride, Dihydrate and Calcium Chloride, Anhydrous; Technical
BB-F-1421	-	Fluorocarbon Refrigerants
HH-I-524	-	Insulation Board, Thermal (Polystyrene)
HH-I-530	-	Insulation Board, Thermal (Urethane)

QQ-S-781 - Strapping, Steel and Seals
QQ-Z-325 - Zinc Coating, Electrodeposited, Requirements for
TT-P-664 - Primer, Coating, Synthetic, Rust-Inhibiting, Lacquer-Resisting
UU-T-81 - Tags, Shipping and Stock
VV-L-825 - Lubricating Oil, Refrigerant Compressor
WW-P-404 - Pipe Steel, (Seamless and Welded, Black and Zinc-Coated) (Galvanized)
GGG-P-323 - Pick, Ice
PPP-B-636 - Boxes, Shipping, Fiberboard
PPP-C-843 - Cushioning Material, Cellulosic
PPP-P-40 - Packaging and Packing of Hand Tools

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MIL-C-104 - Crates, Wood, Lumber and Plywood Sheathed, Nailed and Bolted
MIL-P-116 - Preservation-Packaging Methods of
MIL-T-152 - Treatment, Moisture and Fungus-Resistant, of Communications, Electronic and Associated Electrical Equipment
MIL-V-173 - Varnish Moisture and Fungus-Resistant for the Treatment of Communications, Electronic and Associated Electrical Equipment
MIL-P-514 - Plates, Identification, Instruction and Marking, Blank
MIL-F-3541 - Fittings, Lubrication
MIL-G-3859 - Grease Gun, Hand, High Pressure, Lever Operated, Cartridge and Bulk Loading (14 Ounce and 21 Ounce Capacity)
MIL-E-10062 - Engine, Preparation for Shipment and Storage of
MIL-G-10924 - Grease, Automotive and Artillery
MIL-S-12514 - Starter, Motor, Across-The-Line and Reduced Voltages Types, A-C Induction, 3/4 to 100 hp, Manual and Electric
MIL-C-14370 - Compressors, Reciprocating, Power-Driven, Open-Type for use with Refrigerant 12
MIL-C-23122 - Condensers, Air-Cooled, Refrigerant 12
MIL-G-23827 - Grease, Aircraft and Instrument, Gear and Actuator Screw
MIL-T-46786 - Tank, Fuel, Engine, General Requirements for

STANDARDS

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MIL-STD-105	-	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	-	Marking for Shipment and Storage
MIL-STD-130	-	Identification Marking of U.S. Military Property
MIL-STD-461	-	Electromagnetic Interference Characteristics, Requirement for Equipment
MIL-STD-462	-	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-605	-	Inorganic Acids and Acid Anhydrides, Except Acs
MIL-STD-889	-	Dissimilar Metals
MIL-STD-1186	-	Cushioning, Anchoring, Bracing, Blocking, and Waterproofing with Appropriate Test Methods
MIL-STD-1402	-	Engine, Gasoline, Air-Cooled, 10 BHP, 4-Cycle, Military Design, Model 2A042, Installation Procedures
MIL-STD-1474	-	Noise Limits for Army Materiel
MS 16993	-	Plug, Fusible, Refrigerant 12
MS 17243	-	Valve, Angle, Shut-Off, Packed Receiver Refrigerant 12
MS 17291	-	Receivers, Liquid, Refrigerant 12
MS 17798	-	Indicator, Sight, Liquid Refrigerant
MS 17982	-	Valve, Expansion, Thermostatic Refrigerant 12
MS 27900	-	Gage, Compound, Pressure and Vacuum Dial Indicating, Panel Mounted, Refrigerant 12
MS 27901	-	Gage, Pressure, Dial Indicating, Panel Mounted, Refrigerant 12
MS 35000	-	Battery, Storage, Lead Acid, Waterproof for Tactical Vehicles
MS 35845	-	Dehydrators, Desiccant, Refrigerant 12
MS 35872	-	Flare Nut and Flare Seal Bonnet, Refrigeration
MS 35880	-	Valve, Packless Stop, Solder Joint Connection Ends
MS 35882	-	Valve, Packless Stop, Three-Way, Solder-Joint Connection Ends

(Copies of specifications and standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

National Bureau of Standards

Handbook H28 - Screw-Thread Standards for Federal Services

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402).

American National Standards Institute, Inc. (ANSI)

B9.1 - Safety Code for Mechanical Refrigeration

S1.4 - General Purpose Sound Level Meters

(Application for copies should be addressed to the American National Standard Institute, 1430 Broadway, New York, NY 10018).

Underwriters' Laboratories, Inc. (UL)

UL 207C Refrigerant - Containing Components

(Application for copies should be addressed to Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, IL 60611; 1285 Walt Whitman Road, Melville, Long Island, NY 11746; or 1655 Scott Boulevard, Santa Clara, CA 95050).

American Society for Testing and Materials (ASTM)

A 269 - Seamless and Welded Austenitic Stainless Steel Tubing for General Service
B 280 - Seamless Copper Tube for Air Conditioning and Refrigeration Field Service, Specifications for
D 1692 - Flammability of Plastic Sheeting and Cellular Plastics, Test for

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification

(Application for copies should be addressed to American Trucking Associations, Inc., ATTN: Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Rubber Manufacturers' Association

Standards for Multiple V-Belt Drives

(Application for copies should be addressed to Rubber Manufacturers' Association, 444 Madison Avenue, New York, NY 10022.)

National Electrical Manufacturers' Association (NEMA)

M 61 - Motors and Generators

(Application for copies should be addressed to the National Electrical Manufacturers' Association, 155 East 44th Street, New York, NY 10017.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 First article. Unless otherwise specified (see 6.2), the supplier shall furnish a sample of the item to be procured under this specification for first article inspection and approval (see 4.2, 6.2 and 6.3).

* 3.1.1 Initial production. When specified (see 6.2), the supplier shall furnish a sample for initial production inspection and approval (see 4.2.1 and 6.4).

* 3.1.2 Inspection comparison testing sample. When specified (see 6.2), the supplier shall furnish a sample for comparison inspection and approval (see 4.2.2 and 6.5).

* 3.2 Standard product. The ice making plant shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product with any added features needed to comply with the requirements of this specification. Modifications to add features shall not incorporate different parts unless such parts are used on other current commercial models. Standard or modified commercial products furnished in accordance with this specification shall be identifiable by all regular manufacturer's or commercial service organizations servicing the brand involved. Service organizations shall be capable of providing complete parts and repair services on models furnished to the government consistent with their normal commercial practices.

3.3 UL standards. The refrigeration system components shall conform to the UL 207C as applicable and electrical components shall conform to UL Standards as applicable.

3.3.1 UL certification. Prior to approval of the preproduction sample, if one is submitted, or prior to approval of the first shipment, the supplier shall submit satisfactory evidence to the contracting officer or his authorized representative that the refrigeration system components he proposes to supply under this specification meet the applicable requirements of UL 207C and the electrical components he proposes to supply under this specification meet UL Standards as applicable. Acceptable evidence of meeting the requirements of the applicable UL Standards shall be the UL labels, listing mark, or a certified test report from a recognized independent testing laboratory, acceptable to the Government, indicating that the refrigeration unit components and electrical components offered have been tested and conform to the applicable UL Standards.

3.4 Materials. Materials not definitely specified shall be of the quality normally used by the manufacturer for ice making plants, provided the completed item complies with all provisions of this specification. Commercial tolerances shall apply to all metal thickness and diameters unless otherwise specified herein.

3.4.1 Dissimilar metals. Dissimilar metals in contact with each other shall be avoided unless protected against galvanic corrosion. Dissimilar metals shall be isolated from one another in accordance with type II, dissimilar metals (incompatible couples) of MIL-STD-889.

3.4.2 Fasteners. All steel fasteners shall be zinc or cadmium plated. Sheet metal or self-tapping screws shall not be used in an area for structural strength. Threads shall conform to handbook H28.

3.4.3 Corrosion-resisting steel. Corrosion-resisting steel shall confrom to grade TP 304L of ASTM A269.

3.4.4 Insulation. Insulations shall be nonhydroscopic homogenous material with a K factor of not more than 0.25 using a 75 degrees Fahrenheit (F) mean temperature and expressed in terms of Btu per hour per square foot per inch of thickness per degree Fahrenheit temperature difference.

3.4.4.1 Preexpanded insulation. Preexpanded insulation shall be either polystyrene material conforming to class A, type I or II of HH-I-524 or polyurethane conforming to any size class 1, type II of HH-I-530.

3.4.4.2 Foamed-in-place insulation. Foamed-in-place insulation shall conform to ASTM Standard D 1692 with a core density not less than 1.7 pounds per cubic foot when tested as specified in 4.4.8. The foamed-in-place insulation shall be dimensionally stable at temperatures of 150 F. when tested as specified in 4.4.9.

* 3.5 Design and construction. The ice making plant shall be a self-contained skid mounted unit including a gasoline engine driven refrigerating system for the type I and an electric motor driven refrigeration system for the type II brine tank, agitator and ice cans. The plant shall produce not less than 1900 pounds of ice in 24 hours when operating in any ambient between 32 and 120 F. with water supplied to the ice cans at a temperature not less than 90 F. and a brine temperature not lower than 10 F. when tested as specified in 4.4.5. The plant shall operate for not less than 1000 hours without failure or malfunction and without requiring service or maintenance other than normal gasoline engine maintenance and service such as lubrication, belt adjustment or replacement and brine maintenance specified herein when tested as specified in 4.4.5. If the gasoline engine fails during 1000 hours test due to a gasoline engine problem that is not associated with system design the engine may be repaired or replaced and the test continued. The ice plant shall be capable of operating for 10 hours without service or maintenance and without failure or malfunction (see 4.4.6).

3.5.1 Refrigeration system. The refrigeration system shall consist of a high pressure side with compressor, air cooled condenser, liquid receiver, sight glass, dehydrator, high pressure safety control, and liquid line; a low pressure side with the expansion valve, evaporator low pressure control and suction line. The refrigerant shall conform to type 12 of BB-F-1421. The moisture content of the system shall not exceed 25 parts per million (ppm) by weight when tested with moisture indicator (see 4.4.5). The refrigeration system shall not leak when tested in accordance with 4.4.1. The system shall have provision for pump down and storage of the liquid refrigerant in the receiver. The Hi-Lo pressure control shall be used to stop the gasoline engine or motor when the head pressure exceeds 250 $\pm$ 10 pound per square inch gage (psig) or when the suction pressure reaches a pressure 3 psig below the normal operating pressure as determined during test in 4.4.2. Provisions shall be incorporated in the system to completely unload the compressor when starting. A manual equalizing valve between the high and low side of the system will be acceptable.

3.5.1.1 Compressor. The compressor shall conform to type II of MIL-C-14370. The compressor shall be V-belt driven from the prime mover and there shall be no intermediate drive pulley nor jackshaft between the compressor and prime mover. For the purpose of compressor belt adjustment, the gasoline engine or electric motor shall be movable on its base by means of adjustment slots at least 4 inches long and means for adjustment shall be made by two tension or compression bolts. The compressor shall be installed to be readily interchangeable on any contract with all other type II compressors conforming to MIL-C-14370.

3.5.1.2 Condenser. The condenser shall be type III, class 1 in accordance with MIL-C-23122. The air intake side of the condenser shall be protected by a removable galvanized screen with 1/4 inch mesh openings. Condenser cooling shall be accomplished by a V-belt or direct driven fan. Fan bearings shall be self-aligning ball bearing type with an accessible means for pressure lubrication. Provision shall be made for tightening the V-belt. when used. Moving mechanical parts shall be covered to protect from a safety hazard.

3.5.1.3 Receiver. The liquid receiver shall conform to MS 17291, and shall be sized so that its capacity shall contain the full charge of refrigerant required for operation of the ice plant in 80 percent of its volume. The receiver shall be mounted horizontally below the level of the condenser. The receiver shall be equipped with a fusible plug conforming to MS 16993 and inlet and outlet shutoff valves conforming to MS 17243, sized to fit refrigerant lines.

3.5.1.4 Sight glass. The sight glass shall conform to MS 17798 and shall be located in the liquid line between the dehydrator and expansion valve.

3.5.1.5 Dehydrator. A dehydrator conforming to MS 35845 shall be installed in the liquid refrigerant line. A 3-valve by-pass shall be installed in the refrigerant line to facilitate by-pass and replacement of the dehydrator. Two of the valves shall conform to MS 35880 or MS 35882 and the receiver outlet may be used for the third valve.

3.5.1.6 Expansion valve. The expansion valve shall be the thermostatic type conforming to MS 17982.

3.5.1.7 Evaporator coil. The evaporator coil shall be welded black steel pipe conforming to class A53BW of WW-P-404. The coil surface shall cool the brine to produce the quantity of ice specified.

3.5.1.8 Refrigerant tubing. Refrigerant tube shall conform to ASTM B280. Tube-joint connections (except when flare-type fittings are specified) shall be brazed.

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Flare nuts shall conform to MS 35872. Compressor suction and discharge connections shall be made with flexible couplings of the metal-hose type for refrigerant use. Coupling construction shall consist of a bronze, seamless, corrugated hose externally reinforced by a braided, bronze shield. End fittings of the flexible couplings shall be brazed to the hose. Refrigerant lines shall be purged with dry nitrogen before and during brazing. All flux and foreign material shall be removed from finished joints; and tubing and fittings shall be given a coat of protective lacquer after successfully passing the leak test specified in 4.4.1.

3.5.1.9 Gages. High pressure and compound pressure and vacuum gages conforming to MS 27901 and 27900 shall be mounted on the ice making plant so that they are visible from the outside of condensing section.

* 3.5.2 Type I ice making plants.

* 3.5.2.1 Gasoline engine. The gasoline engine shall be a multicylinder, air cooled, 4-cycle, capable of producing not less than 7.1 brake horsepower (BHP) at a maximum speed of 1800 revolutions per minute (rpm), under continuous operation conforming to group I of MIL-E-11275. The engine shall be provided with a 12 volt electrical cranking system with provisions for a manual cranking system, either rope or hand crank, and shall be complete with electric starting motor, generator or alternator and all necessary circuit devices and controls and regulators, and mounting provisions. All serviceable components of the engine such as air cleaner, spark plugs, oil dip stick, oil filter tube, oil drain, fuel filter, and carburetor shall be accessible from front or side of the unit. The crankcase drain will be supplied with a drain hose to provide for draining oil outside the frame of the unit. The engine shall be complete with a muffler system capable of meeting the noise level requirements of paragraph 3.2.2.

3.5.2.2 Fuel tank. A 30-gallon capacity fuel tank in accordance with type I or III, class 1, of MIL-T-46786 shall be furnished and installed. Construction and mounting shall be such that neither vibration, nor excessive tightening of mounting nor contact with other members of the engine end item, will cause leaks to develop. A chain-secured type filler cap, a filler neck, and a strainer with a clear opening of not less than 2 inches in diameter, conforming to MIL-T-46786 shall be provided. The removable strainer shall be located or protected to prevent contact with the filling nozzle. The filler neck shall be provided with an air vent to prevent "blow back" on rapid filling. A drain fitting to enable draining without removing the tank from the unit shall be provided. The entrance of the fuel supply pickup tube shall be not more than 1/4 inch above the bottom of the fuel tank.

3.5.2.3 Gasoline gage. A gasoline gage shall be supplied consisting of a liquid level indicator with mechanical connections to float and linkage mechanism in the fuel tank.

3.5.2.4 Engine hour meter. A nonresetting engine hour meter for recording engine operation shall be provided. The meter shall be of the type and voltage for the application and use with the ice making plant on which installed, and shall be capable of recording a total of 9,999 hours. The meter shall be mounted to prevent damage by operational vibrations.

3.5.2.5 Ammeter. An automotive type ammeter shall be supplied and shall indicate the flow of current.

3.5.2.6 Oil pressure gage. An automotive type oil pressure gage shall be supplied and shall be calibrated over the range of 0 to 50 psi.

3.5.2.7 Power transmission. Power shall be transmitted from the gasoline engine to the compressor through a minimum of two B section V-belts, with provision for belt tightness adjustment. All belts shall be replaceable without removing any major component of the ice making plant. V-belt drives shall be in accordance with the Rubber Manufacturers' Association Standards for Multiple V-Belt Drives.

3.5.2.8 Battery. A battery conforming to MS 35000-1 of MS-35000 shall be furnished. The battery shall be mounted and secured on the ice making plant. Battery mounting shall allow easy access for checking electrolyte and for replacement of battery.

3.5.2.8.1 Battery connections and cables. Battery cables shall be furnished to connect the battery to the control panel. Terminals shall be provided on the control panel to accept the battery cables and the terminals shall be marked for polarity.

3.5.2.9 Starting controls. The engine starting control shall consist of an "ON-OFF" switch and a momentary contact starter switch. The "ON-OFF" switch shall ground the engine magneto when the switch is in the off position. A remote type manual choke control shall be furnished and shall be operable from the front of the unit.

* 3.6 Type II ice making plants.

* 3.6.1 Compressor motor. Unless otherwise specified (see 6.2), the motor shall operate on a nominal 208 volt, 3 phase, 4-wire, 60 Hertz power supply. The motor shall be 5 horsepower (hp), nominal 1750 revolutions per minute (rpm), squirrel cage type NEMA design c and totally inclosed fan cooled. An arrow indicating the proper direction of rotation shall be placed on the condensing unit housing. The ambient temperature reference shall be 50 degrees centigrade (c). The motor shall be furnished with a NEMA frame number 184T in accordance with NEMA M 61.

* 3.6.1.1 Compressor, motor starter. The motor starter shall be a NEMA general purpose size 1 and shall conform to type I, class 2, style A, of MIL-S-12514, except that a switch shall be provided instead of a push button station. The switch shall have ON and OFF positions. The starter shall be mounted in a water-tight enclosure.

* 3.6.2 Fan drive. The condenser fan and agitator shall be driven by a nominal 208 volts, 60 Hertz, single phase power supply. The condenser fan and agitator motors shall be a minimum 1/4 horsepower. The condenser fan and agitator motors shall be direct drive and shall be wired so that the condenser fan motor operates when the compressor motor operates.

* 3.6.3 Electrical supply connection. Unless otherwise specified (see 6.2), the electric motor shall be connected to the compressor motor starter by an SO cable with waterproof connections at each end. The ice making plant shall be furnished with 6 foot long SO power cable and male plug.

3.7 Controls. Controls and instruments mounted on one panel shall be accessible for ease in replacement, readable from the operating position and protected by doors or a recessed position.

* 3.7.1 Toggle and control switches. Toggle and control switches shall be four pole or one pole, sealed toggle as required.

3.8 Fungus control of coils and electric motors. Starter coils and solenoid coils except potted coils shall be treated in accordance with MIL-T-152. Motor coils with a temperature rise of 40 degrees centigrade (C) or less shall be coated with fungus resistant varnish conforming to MIL-V-173. The coats shall be applied by the vacuum-pressure immersion, centrifugal, pulsating pressure, or build-up method to fill all interstices in the coils and preclude entrapped air or moisture. The sealer coat may also be applied by brushing or spraying.

3.9 Lubrication. All surfaces requiring lubrication shall be provided with a means for lubricating.

3.9.1 Lubricants. The ice making plant shall operate as specified herein when lubricated with military lubricants.

3.9.2 Lubrication fittings. Lubrication fittings shall conform to type I, II or III of MIL-F-3541. Fittings shall be located in a protected position and shall be accessible to a grease gun conforming to MIL-G-3859. Accessibility to fittings shall be provided without interference from parts. Panels may be provided for accessibility.

3.9.3 Grease lubrication. All grease lubrication, including lubrication of sealed bearings shall be with grease as follows:

(a) MIL-G-23827 - All sealed bearings and other bearings when operating temperatures do not exceed 250 F.
(b) MIL-G-10924 - For bearings where operating temperatures do not exceed 175 F.

The ice making plant shall be assembled, tested and delivered with these greases. The bearings shall be cleaned before lubrication because Military greases are not always compatible with other greases. Each ice making plant shall be tagged in a conspicuous place to indicate which military grease has been used.

3.9.4 Oil lubrication. The gasoline engine shall be filled to the operating level with oil conforming to type I, grade recommended by engine manufacturer, of MIL-L-21260. The compressor shall be filled to the operating level with oil conforming to type II of VV-L-825. A tag shall be attached in a conspicuous place to both compressor and engine to indicate the temperature range and grade of lubricant used.

3.10 Accessories.

3.10.1 Ice cans. Thirty ice cans of 50-pound ice capacity shall be furnished with each ice plant. Each can shall be 32 inches deep, with the top 14 inches by 5 inches and 1/2-inch taper in depth to facilitate can stacking and ice dumping. The cans shall be constructed of steel sheet not thinner than 16 gage (0.0598 inch nominal). All seams shall be welded water tight and then smoothed; inside seams shall be smoothed level to the steel sheet surface. Cans shall have a reinforcing collar around the top edge to prevent deformation when handling. After fabrication and seam smoothing, each can shall be galvanized conforming to type II, class 1 of QQ-Z-325. In place of sheet steel and galvanizing the finished cans, zinc-coated steel not thinner than 16 gage (0.0598 inch nominal) may be used and the welded seams coated with heavy-density zinc-base coating to replace the coating damaged in the welding operation. Each ice can shall be conspicuously and permanently marked in letters no smaller than 3/8 inch with the following statement:

"NOT TO BE USED WITH ACIDIC SOLUTIONS SUCH AS LEMONADE"

3.10.2 Calcium chloride. Calcium chloride conforming to O-C-105 shall be furnished in sufficient quantity to prepare an initial brine solution having a specific gravity of 1.24 at 60 F.

3.10.3 Hydrometers. Two hydrometers calibrated to read specific gravity shall be furnished.

3.10.4 Can lifters. Two can lifters for harvesting the ice shall be furnished with each ice making plant.

3.10.5 Ice tongs. Two pairs of ice tongs, for handling the ice shall be furnished with each ice making plant.

3.10.6 Ice picks. Six ice picks conforming to GGG-P-323 shall be furnished with each ice making plant.

3.11 Brine tank. The brine tank shall be constructed of sheet carbon steel not thinner than 14 gage (0.075 inch nominal) and shall contain twenty 50 pound capacity ice cans. The tank shall be reinforced and braced and shall be inclosed in an insulated cabinet. A grid or rack for the cans to rest on and black steel vertical grids to retain cans in an upright position shall be provided. The vertical grids shall serve the purpose of aiding the insertion of the ice cans and to insure space between the cans for adequate circulation of the brine. The guides shall be equipped with hold-down clamps that will hold the cans in position. A drain shall be provided to drain the brine from the tank. The brine tank, evaporator coil, and all surfaces of other components within the brine tank shall be cleaned, treated, and painted in accordance with type II of MIL-STD-889. The brine tank shall be insulated with insulation conforming to 3.4.4. The minimum thickness of the insulation shall be 6 inches for the bottom of the tank and 4 inches for the sides of the tank.

3.12 Cabinet. The cabinet shall be constructed of sheet carbon steel not thinner than 16 gage (0.0598 inch nominal) and fastened to the skid base specified in 3.14. The cabinet shall be equipped with four insulated removeable lids with overlapping edges which fit down over the brine tank compartments. Each lid shall be smooth with a slightly raised center to shed water and shall be reinforced to prevent distortion when utilized as a platform for the removal of the ice cans from the brine tank when tested as specified in 4.4.5. Each lid shall be provided with two handles for lifting lids off tank.

3.13 Agitator. The agitator shall be a V-belt driven or direct drive propellor or pump and shall produce sufficient motion of the brine to insure uniform cooling of all cans when tested as specified in 4.4.5.

3.14 Skid base. The skid base shall be comprised of two parallel steel I-beams spaced and reinforced by cross members. The base shall be of a size and strength to permit lifting the ice making plant as a unit. Each I-beam shall have a portion of the web cut out at each end and at that point the bottom flange bent up a minimum of 2 inches to form a rounded surface for skidding. Each I-beam shall be provided with a 3 inch ring or hook (attachment) at each end for towing and lifting. The attachments shall enable the plant to be lifted in its normal position. Each attachment shall withstand 2-1/2 times the resulting force imposed when the ice making plant is suspended by the attachments when tested as specified in 4.4.3. Each attachment shall withstand the following static loads when tested as specified in 4.4.4; 4-G in a forward and rearward direction and 3/4-G in a sideward direction where G equals the shipping weight of the ice making plant.

3.15 Maintainability. Maintainability requirements specified in MIL-STD-1402 shall be adhered to during installation of the gasoline engine. All other major assemblies and installed attachments shall be accessible for maintenance, repair, and replacement without removal of any major component. Access panels, covers, and plates shall be provided as required for component adjustment, repair, or replacement and shall be fastened with easily operated, quick-disconnect fasteners or with screws.

3.16 Insulation. All space within the walls and lids of the brine tank including bottom shall be completely filled with either pre-expanded insulation specified in 3.4.4.1 or foamed-in-place insulation specified in 3.4.4.2. Insulation shall be closed and sealed and protected against seepage and condensation spillage. Insulation shall be vaporproofed to inhibit the undue migration of moisture vapor. The insulation shall be installed so as to leave no voids or empty pockets. Pre-expanded insulation, when used, shall be installed in layers bonded to one another with a minimum of joints carefully fitted and staggered. All insulation shall be bonded to the brine tank and cabinet and inside surface of the lids.

3.17 Protective enclosure. The refrigeration system including the gasoline engine or electric motor shall be provided with a metal enclosure to protect from elements of the weather and accidental damage; and allow air circulation for proper equipment operation with door closed. The metal enclosure shall be constructed of sheet carbon steel not thinner than 16 gage (0.0598 inch nominal) and braced to provide strength against flexure. Access to components of the system shall be provided by hinged doors without the use of hand tools.

3.18 Electromagnetic compatibility. When specified (see 6.2), the refrigeration units shall be designed and equipped for electromagnetic compatibility in accordance with class III c of MIL-STD-461 (see 4.4.7).

3.19 Identification. All identification plates shall be screwed or riveted to the ice making plant.

3.19.1 Identification plate. The marking shall be applied to the ice making plant on plates conforming to type III, composition A, class 1 or 2 of MIL-P-514. The ice making plant shall be identified in accordance with MIL-STD-130, and, in addition, shall show the silhouette of the ice making plant in position, suspended by a sling with spreader bar, and indicating the center of gravity, location and capacity of the lifting and tie down attachments. The plates shall be attached by fasteners made of the same material as the plates in a conspicuous protected location in the working area of the ice plant.

3.19.2 Instruction plates. Each ice making plant shall be equippped with instruction plates, including warnings or cautions describing any important procedures to be followed in assembling, operating, and servicing the ice making plant. Instruction plates shall conform to type III, composition A, class 1 or 2 of MIL-P-514.

3.20 Color and finish. Portions of the ice making plant requiring painting shall be cleaned, treated, and painted in accordance with type A of MIL-T-704. Color shall be as specified (see 6.2).

3.21 Stenciling. The gross weight without brine of the plant fully serviced and ready for operation, shall be stenciled in white oil paint or a paint of a color contrasting with the background on both sides of each plant. The brine tank shall be stenciled with the following in a conspicuous location:

(a) "Drain brine before moving".
(b) "Brine level - all cans removed".
(c) "Number from 1 to 5, 6 to 10, 11 to 15, 16 to 20 to indicate number of ice cans".

The letters shall be 2 inch gothic and 2 inch numerals.

* 3.22 Noise level. When tested as specified in 4.4.11, the noise limits for all types of ice making plants shall conform to MIL-STD-1474.

3.23 Workmanship. All parts of the ice making plant shall be clean and free from pits, sprues, scale, flux, and extraneous material. External surfaces shall be free from burrs and sharp edges. The surfaces of parts to be welded shall be free from rust, scale, paint, grease, and other foreign matter. All welded areas shall be refinished after welding (see 3.10.1).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 First article inspection. When a first article is required, it shall be examined for the defects listed in table I, for the dimensions specified herein, and tested in order as specified in 4.4.1 through 4.4.5, 4.4.7, when applicable, and 4.4.11. Failure to pass any test, the presence of any defects listed in table I, or any dimension not within specified requirements shall be cause for rejection of the first article.

* 4.2.1 Initial production sample inspection. When an initial production sample is required, the ice making plant shall be examined as specified in table I, for the dimensions specified herein and tested as specified in paragraphs 4.4.1 through 4.4.5 and 4.4.11. The presence of any defects or failure to meet any test requirement shall be cause for rejection of the initial production sample.

* 4.2.2 Comparison sample inspection. When a comparison sample is required, the ice making plant shall be examined as specified in table I, for the dimensions specified herein and tested as specified in paragraphs 4.4.1 through 4.4.5. The presence of any defects or failure to meet any test requirements shall be cause for rejection of the comparison sample.

4.3 Inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105 except where otherwise indicated hereinafter.

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced specifications and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 In-process inspection.

4.3.2.1 Process examination. Examination shall be made of the following processes to establish conformance with specified requirements. Whenever non-conformance is noted, correction shall be made to the affected item and process.

(a) Incompatible metals in contact (see 3.4.1)
(b) Cabinet insulation (see 3.12)
(c) Brine tank finishing (see 3.11)
(d) Treatment of electrical components (see 3.8)
(e) Grease not provided (see 3.9.3)
(f) Oil not provided (see 3.9.4)
(g) Can water tightness and zinc coating provided (see 3.10.1)
(h) Seams welded smooth and coated (see 3.10.1)
(i) Installation of insulation (see 3.16)

4.3.2.2 Process tests.

4.3.2.2.1 Insulation. The density and heat stability tests of the foamed-in-place insulation shall be performed as specified in 4.4.8 and 4.4.9. The inspection lot shall be the amount of material used in one days production. The sample unit shall be a 6 inch cube.

* 4.3.2.2.2 Ice cans water tightness test. The ice cans referenced in 3.10.1 shall be filled with water and observed for leakage. Any leakage shall constitute failure and correction shall be made.

4.3.3 End item inspection. The inspection lot shall be all ice making plants of one type offered for inspection at one time. The sample unit shall be one completely fabricated ice making plant.

4.3.3.1 Visual examination. An examination shall be made of the ice making plants for defects listed in table I. The inspection level shall be S-2 with acceptable quality level (AQL) of 2.5 for major defects and 6.5 for total defects expressed in terms of defects per hundred units.

TABLE I. Classification of defects

Examine	Defect	Classification Major	Classification Minor
Finish	Not color specified		X
	Any component not design or type specified or any component missing	X	
Design, construction and workmanship	Sheet metal or self tapping screws used as fasteners in structural area		X
	No provision for pump-down of refrigerant		X
Receiver	Mounted incorrectly	X	
Protective inclosure	Excess panel flexure		X
	No provision for air circulation	X	
Sight glass	Incorrectly located		X
Dehydrator	Incorrectly located		X
Refrigerant tubing	Joints not brazed		X
	Flexible coupling not used		X
	Braided shield missing		X
Electric motors	Not type specified	X	
	Not size specified	X	
Electric connections	Not as specified, male plug missing, wrong length	X	
Brine tank	Tank not reinforced		X
	Cans not adequately spaced		X
	Drain not provided		X
	Hold down clamps not provided		X
Cabinet	Lids not overlapping		X
	Lids without raised center		X
	Lids not reinforced		X
	No lid handles		X

TABLE I. Classification of defects

Examine	Defect	Classification Major	Classification Minor
Skid base	Flanges not modified for skidding		X
	No provision for lifting		X
Fuel tank	No chain on cap		X
	No removable strainer		X
	No vent		X
	No drain		X
Muffler and exhaust pipe	Flexible tubing missing		X
	Muffler not rigidly mounted		X
	Manifold not bracketed properly		X
	Exhaust not protected from rain		X
Controls	Controls not accessible nor visible from same position		X
Overcranking circuit breaker	No manual reset		X
	No broken circuit indicator		X
Gas gage	Not visible nor maintainable from operating position		X
Hour meter	Incorrect capacity		X
	Not serviceable from unit front		X
Ammeter	Not automotive type		X
	Not serviceable from unit front		X
Battery terminals	Not weather protected		X
Marking, identification	Missing, incomplete, illegible or not as specified		X

4.3.3.2 Dimensional examination. An examination shall be made of the ice making plants for defects in dimensions. Any dimension not meeting specified requirements shall be classified as a defect. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of defects per hundred units.

* 4.3.3.3 End item testing. Each ice making plant shall be tested in order, as specified in 4.4.1, 4.4.2 and 4.4.6 and failure of any test shall be cause for rejection of the item. The test as specified in 4.4.3, 4.4.4, 4.4.5, 4.4.7 when applicable and 4.4.11 shall be performed on one production unit (see 6.6). Failure of any test shall be cause for rejection of the inspection lot.

4.3.4 Code andstandard compliance. Proof of compliance with the requirements of 3.3.1 shall be submitted to the Government representative.

4.3.5 Inspection of preparation for delivery.

4.3.5.1 Preproduction pack inspection. The preproduction pack shall be examined for the defects specified in table II and tested as specified in 4.4.10. Presence of one or more defects or failure of the test shall be cause for rejection of the preproduction pack.

4.3.5.2 Quality conformance inspection of pack. Each pack shall be examined for the defects listed in table II. Presence of one or more defects shall be cause for rejection.

TABLE II. Examination for preparation of delivery

Defects
Materials, methods, and containers not as specified for level A
Unpainted exterior metal surfaces not coated with preservative for level A
Engine or motor (as applicable) preservation not as specified for level A or C
Openings not sealed as specified for level A
Battery not placed and secured in the battery rack cables disconnected and secured, and fill openings not sealed as specified for level A

TABLE II. Examination for preparation of delivery (cont'd)

Defects
Electrolyte not packaged in accordance with the referenced document and secured as specified for level A
Drive belts not released from tension and unpainted pulley grooves coated with primer as specified for level A
Refrigerant system not pumped down and tagged as specified for level A or C
Refrigerant compressor not filled and tagged as specified for level A
Preservative applied to internal surfaces of the refrigerant condenser, driers, or receivers for level A
Brine tank drain not left open for level A or C
Ice cans not placed in the tank and cushioned as specified for level A
Extra ice cans not nested and banded together as specified for level A
Calcium chloride not packaged in a steel drum for level A
Maintenance tools not preserved and packaged in accordance with the referenced document for level A
Consolidated packaging not as specified for level A
Packing not as specified for level A
Marking missing, illegible, incorrect, or incomplete

4.4 Tests.

4.4.1 Refrigeration system leak test. Subject the refrigeration system to the pressures specified in ANSI Standard B9.1. Charge the refrigeration system with dry nitrogen containing refrigerant gas detectable with a halogensensitive electronic leak detector. Calibrate the leak detector for the type of gas and percentage of mixture employed, and set the detector to indicate a leakage rate of 0.5 ounce per year. Check the entire refrigerant system for leaks in accordance with 3.5.1 and 3.5.1.8. Evidence of deformation of any refrigerant system component or any detectable leak shall constitute failure of this test.

4.4.2 High pressure - low pressure cutout. With pressure gage lines connected to the compressor service valves, operate the ice making plant. Raise the condensing pressure by blocking off the condenser airflow. High pressure switch shall stop the compressor when head pressure reaches 250 psig ± 10 psig. Reset the cutout control and restart the ice making plant. Reduce the suction pressure by utilizing the pump down provisions to check operation of low pressure cutout. Cutout pressure should be 3 psi below normal operating pressure. Failure of the pressure cutouts to operate in accordance with the requirements as specified in 3.5.1 shall constitute failure of the test.

4.4.3 Lifting attachments. Lift the ice making plant and hold in suspension in its normal travel position. Determine the load carried on each attachment. Restrain the ice making plant by anchoring the base and subject each attachment to a pull of 2-1/2 times the load it carries. Hold each load for 90 seconds, to determine compliance with 3.14. Weld failure or damage to the ice making plant or its lifting attachments shall constitute failure of this test.

4.4.4 Directional load test. With the ice making plant secured from moving apply static loads as specified in 3.14 to each attachment for a minimum of 90 seconds. Weld failure or damage to the ice making plant or its attachments shall constitute failure of this test.

4.4.5 Durability and capacity. With the brine tank filled to the operating level with brine solution and with all empty ice cans in place in the brine tank, with no moisture in the refrigerant system, start and operate the ice making plant in an ambient air temperature of 120 F. When the brine temperature is reduced to 8 F. plus or minus 1 F., fill ten of the ice cans with potable water having a temperature of not less than 90 F. Brine temperature shall show uniformity throughout tank to determine compliance with 3.13. After 6 hours of operation, fill the remaining ten cans with potable water having a temperature of not less than 90 F. At this time start the 1000 hour test. With the ice plant operating record the following data:

(a) Ambient air temperature F
(b) Brine temperature F
(c) Air entering the condenser F
(d) Air leaving the condenser F
(e) Refrigerant suction pressure
(f) Refrigerant discharge pressure
(g) Time and weight of ice pulled
(h) Time ice cans were refilled
(i) Temperature of potable water used to refill cans F

The above data shall be recorded every two hours for a total operating time of 1000 hours. After the first 2 hours of this test, the system shall indicate "dry" on the appropriate moisture and liquid indicator (see 3.5.1). In the event that there is an indication of moisture in the system, dryer replacements shall be made, and the system operated until the moisture indicator shows dry. Determine the capacity of the ice making plant. Ice shall be harvested continually every 6 hours throughout the test by pulling 5 cans out of two alternate freezing compartments (total of 10 cans). During harvesting place 4 filled ice cans on a cabinet lid for at least 5 minutes for determining lid durability to determine compliance with 3.12. Any permanent deformation of the covers shall constitute failure of the test. For the type I units measure the engine exhaust back pressure to determine compliance with 3.5.2.3. Back pressure in excess of 8 inches of H_2O shall constitute failure of the test. Failure of the plant to harvest ice in accordance with 3.5 shall constitute failure of the test.

4.4.6 Performance test. For the type I units batteries that are to be furnished with each ice making plant shall not be used for this test. For the type I units batteries for starting and operating the ice making plant shall be furnished by the supplier. Operate the ice making plant at the prevailing ambient air temperature for a period of not less than 10 hours. Insure that there is a sufficient amount of brine in the brine tank to permit the agitator to function and that the specific gravity of the brine solution is such as to prevent freezing of the brine solution during this test. Nonuniform cooling of the cans shall constitute failure of the test. After completion of this test, wash and clean out the brine tank. In accordance with 3.5 inability of the ice making plant to operate, malfunctioning of any component, or evidence that the refrigeration system is not fully charged shall constitute failure of this test.

4.4.7 Electromagnetic compatibility test. When electromagnetic compatibility is required the ice making plant shall be tested by the supplier in accordance with test method CE03 and RE02 of MIL-STD-462. The Government reserves the right to witness tests performed by the supplier or an independent testing agency. The supplier shall furnish the contracting officer written certification that the Interference Control Plan, the EMI/EMC Test Plan, the Electromagnetic Test Report and the requirements meet MIL-STD-461.

4.4.8 Density test for insulation. Prior to each days production, one minimum 8-inch cube free foam sample of insulation referenced in 3.4.4.2 shall be taken. From the center of the sample a 6-inch cube shall be taken and weighed. This weight for 1/8 cubic foot shall be multiplied by 8 to determine conformance with the density requirement of 3.4.4.2. In addition a daily record of the foam insulation shall be kept as follows and the production unit shall not deviate more than plus or minus 5 percent from the data recorded on the unit used for heat stability test specified in 4.4.9. A deviation of more than 5 percent shall constitute failure of the test.

4.4.9 Heat stability test. One sample of production foam shall be obtained as described in 4.4.8, dimensionally measured, and placed in an oven or heated room and held at 150 F. for 24 hours. After removal of the sample from the oven the sample shall be cooled to room temperature and measured to determine if the foam changed in dimension more than 5 percent to determine conformance to 3.4.4.2. A deviation of more than 5 percent shall constitute failure of the test.

4.4.10 Preproduction pack test. The preproduction pack of the crate containing a complete ice making plant for level A shall be subjected to the railroad car test as specified for guided impact tests in accordance with appendix A of MIL-STD-1186. The car shall strike a string of five empty cars with draft gear extended and the brakes set, at a speed of not less than 10 miles or more than 11 miles per hour. At the conclusion of the test the pack shall be examined. Any shifting of contents, loosening or breaking of hold-downs, ties, stays, blocking or bracing, or any visual damage to the plant or any of the components shall constitute failure of the preproduction pack and shall be cause for rejection.

4.4.11 Noise level test. To conform to the requirements of 3.23, the ice making plant shall be tested as specified in MIL-STD-1474. The noise limit category shall be "D", tables 2 or 3, as applicable. The "service" position shall be 1-foot in front of the control panel and 2 feet above the ground level. Failure to conform to the requirements of 3.23 shall constitute failure of this test.

5. PREPARATION FOR DELIVERY

5.1 Preproduction pack. The supplier shall furnish a preproduction pack for examination and test within the time frame specified (see 6.2) to prove, prior to starting production packaging, that the applied preservation, packaging, packing, and marking comply with the requirements of this specification. Examination and tests shall be those specified herein (see 4.3.5.1). Any changes or deviations of preproduction packs from the approved preproduction pack will be subject to approval of the contracting officer. Approval of the preproduction pack will not relieve the supplier of his obligation to preserve, package, pack, or mark the ice making plant in accordance with this specification.

5.2 Preservation and packaging. Preservation and packaging shall be level A or C as specified (see 6.2).

5.2.1 Level A.

5.2.1.1 Preservatives. Preservatives specified herein shall conform to the applicable specification and shall be applied in accordance with MIL-P-116.

5.2.1.2 Unprotected surfaces. All exposed, uncoated, ferrous metal surfaces such as adjusting rods, agitator shaft, ice can lifter, pin linkages, and any other similar unpainted exterior metal surfaces not definitely specified herein requiring the application of a contact preservative in accordance with MIL-P-116, shall be coated with type P-1 preservatives.

* 5.2.1.3 Engine gasoline. The gasoline engine shall be preserved and packaged in accordance with MIL-E-10062, type II, method 1.

* 5.2.1.4 Motors, electrical (when applicable). Each electric motor shall be preserved in accordance with method II of MIL-P-116. The selection of the submethod will be at the option of the supplier.

5.2.1.5 Drive belts and pulleys. Drive belts shall be released from tension and unpainted pulley grooves shall be coated with primer conforming to TT-P-664.

5.2.1.6 Refrigerant system. The refrigerant system shall be pumped down and the valves closed leaving the low pressure side of the system with a positive pressure holding charge. A tag conforming to UU-T-81 shall be attached to the compressor with the following legend: "Open the valves before operating the plant".

5.2.1.7 Refrigerant compressor. The refrigerant compressor crankcase shall be filled to the operating level with the oil recommended for operation. A tag conforming to UU-T-81 shall be attached to the compressor with the following legend: "The crankcase is filled with operating oil".

5.2.1.8 Refrigerant condensers, driers, and receivers. No preservatives shall be applied to the internal surfaces of the refrigerant condensers, driers, and receivers.

5.2.1.9 Brine tank. The brine tank drain shall be left open.

5.2.1.10 Ice cans. All surfaces of the ice can which may come in contact with the potable water used in the manufacture of ice shall be coated with type P-14 preservatives. Twenty ice cans shall be placed and secured in the brine tank. Cushioning shall be provided to prevent the cans from striking the sides of the tank and each other. The remainder of the cans shall be nested together in quantities most convenient to accomplish the packing specified herein. The nested cans shall be secured together with strapping conforming to class 1, type I (regular duty), finish B, grade 2, size as applicable of QQ-S-781.

5.2.1.11 Calcium chloride. The calcium chloride, in the quantities required, shall be packaged in the supplier's standard commercial steel drum.

5.2.1.12 Hydrometers. Each hydrometer shall be individually preserved in accordance with method III of MIL-P-116, using a snug-fitting fiberboard box conforming to style optional, W6c, of PPP-B-636.

5.2.1.13 Technical publications. Technical publications shall be preserved in accordance with method IC-1 or MIL-P-116.

5.2.1.14 Repair parts. Repair parts shall be preserved in accordance with the preservative application criteria and applicable method(s) of preservation of MIL-P-116.

5.2.1.15 Maintenance tools. Maintenance tools shall be preserved and packaged in accordance with the applicable level A requirements of PPP-P-40.

5.2.1.16 Consolidated packaging. Packaged and unpackaged loose components, except the extra ice cans, calcium chloride, and the battery electrolyte shall be placed in the ice cans contained in the brine tank. Cushioning conforming to type II, class A of PPP-C-843 shall be provided to prevent movement and damage to the components or to the ice cans. The brine tank lids shall be placed and secured on the tank as provided for.

5.2.2 Level C. Unless otherwise specified (see 5.2.2.1) the ice making plant shall be preserved and packaged to afford adequate protection against corrosion, deterioration and damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets these requirements.

5.2.2.1 When specified (see 6.2) the ice making plant shall be preserved and packaged as specified in 5.2.2.1.1 through 5.2.2.1.6.

5.2.2.1.1 Engine (when applicable). The engine fuel system and combustion chambers shall be preserved as specified for level A.

5.2.2.1.2 Motor (when applicable). The electric motor shall be preserved as specified for level A.

5.2.2.1.3 Refrigerant system. The refrigerant system shall be pumped down and tagged as specified for level A.

5.2.2.1.4 Brine tank. The brine tank drain shall be left open. Plug or cap for the drain shall be packaged in the tool compartment.

5.2.2.1.5 Ice cans. The ice cans shall be placed, secured, and cushioned as specified for level A except the extra cans shall be secured in accordance with the supplier's recommendation.

5.2.2.1.6 Repair parts. Repair parts shall be preserved as specified for level A.

5.2.2.1.7 Other components. All other components of the ice making plant shall be preserved and packaged to afford adequate protection against corrosion, deterioration and damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets these requirements.

5.3 Packing. Packing shall be level A or C as specified (see 6.2).

5.3.1 Level A. Each complete ice making plant, preserved and packaged as specified in 5.2, shall be packed in a crate conforming to type I, class 2, style a of MIL-C-104. Anchoring, blocking and bracing shall be in accordance with the appendix of MIL-C-104.

5.3.2 Level C. Each complete ice making plant, preserved and packaged as specified in 5.2, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Containers shall be in accordance with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.4 Marking. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The ice making plant covered by this specification is intended for use by the Military in a theatre of operations.

6.2 Ordering data. Procurement documents should specify the following:

(a) Title, number, and date of this specification.
(b) Type of ice making plant required (see 1.2).
(c) When first article is not required (see 3.1, 4.2 and 6.3).
(d) When initial production sample is required (see 3.1.1, 4.2.1 and 6.4).
(e) When initial comparison sample is required (see 3.1.2, 4.2.2 and 6.5).
(f) When electric requirements are other than specified (see 3.6.1 and 3.6.3).
(g) When electromagnetic compatibility is required (see 3.18)

(h) Color desired (see 3.20).
(i) Selection of applicable levels of preservation and packaging and packing (see 5.2 and 5.3).
(j) When alternate preservation and packaging for level C is required (see 5.2.2.1).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of ASPR 7-104.55. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.4 Initial production test. When an initial production test sample is required, the contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the initial production test sample.

6.5 Inspection comparison test. When a comparison test sample is required, the contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the comparison test sample.

6.6 End item tests. Performance of tests as specified in 4.4.3 through 4.4.5, 4.4.7 when applicable and 4.4.11 should be limited to one successful demonstration of compliance to the requirements of this specification for each contract.

6.7 Definitions.

6.7.1 Ambient temperature. Ambient temperature is defined as the average temperature of the air entering the condenser while the refrigeration unit is operating.

6.7.2 Quality assurance provision terms used herein are defined in MIL-STD-109.

6.8 Contract data requirements. Any requirements for instruction manuals for the item covered by this specification should be included in DD Form 1423 Contract Data Requirements List and cited in the contract.

6.9 The margins of this specification are marked with an asterisk (*) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and suppliers are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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Navy - YD

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Army - ME, MD
Navy - MC

User activity:

Army - CE

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DOCUMENT IDENTIFIER AND TITLE
MIL-I-3624D ICE MAKING PLANT, BLOCK, SELF CONTAINED, SKID MOUNTED, 1-TON

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A
☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?
   A. GIVE PARAGRAPH NUMBER AND WORDING.

   B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

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3. IS THE DOCUMENT RESTRICTIVE?
   ☐ YES ☐ NO *(If "Yes", in what way?)*

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